



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,730	09/24/2003	Richard D. Bednar	7016R-000010/COB	6411
27572	7590	06/20/2005	EXAMINER	
HARNES, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			VANAMAN, FRANK BENNETT	
			ART UNIT	PAPER NUMBER
			3618	

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/669,730	Applicant(s) BEDNAR, RICHARD D.	
	Examiner Frank Vanaman	Art Unit 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/3/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/21/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Feb 3, 2005 has been entered.

Claims 1 and 3-12 are pending; claim 2 having been canceled.

Claim Objections

2. Claim 5 is objected to because of the following informalities: in claim 5, the recitation of three controls as being a "left... control", "first... control" and "second... control" appears logically inconsistent. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 7-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 7, lines 13-15, the recitation of a second variable volume control valve is confusing in that a first variable volume control valve has not been recited; in claim 8, lines 1-3, the recitation of a first variable volume control valve after the recitation of a second variable volume control valve is confusing; in claim 10, lines 1-2, the recitation of a first variable volume control valve lacks a clear antecedent basis - note that claim 10 does not include the material of claim 8 in its dependency.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1 and 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin (US 4,301,881) in view of Sindelar (US 4,344,287) and Porta (US

Art Unit: 3618

4,235,297). Griffin teaches a turf mower having a base (1) mounted on a plurality of wheels (3, 4, 5) with an operator chair (9) and interface (S1, S2, S3), an engine (15) which drives a hydraulic pump (P100) operating in only one direction, a first valve set (V7) having an inlet (V7:P) connected to the outlet of the pump, a first outlet (V7:B) and second outlet (V7:T), a first hydraulic motor (HM1) having an inlet (24) connected to the first outlet of the valve set (V7:B) and an outlet connected to a second inlet of the first valve set (V7:A); a second valve set (V207) having an inlet (V207:P) connected to the second outlet of the first valve set (V7:T), a second outlet (V207:T) connected to the input of the pump (through 19, 13 and 50—note col. 3, lines 52-57); a second hydraulic motor (HM101) having an inlet (224) connected to the first outlet (V207:B) of the second valve set, thus connecting the motors and pump in a series configuration, the second valve set having a second inlet (V207:A) to which the outlet (227) of the second motor is connected, each of valves 7 and 207 controlling flow direction and having three modes: a neutral mode as shown in figure 2, and forward and reverse modes, each actuable separately by valve control elements (respective forward and reverse coils, operated by control lines 66, 73, 82, 88), a left operable control corresponding to an operation of the left valve (V7) by control lines 66, 73; an operable control corresponding to an actuation of the second valve (V207) by control lines 82, 88, the pump being a variable capacity pump (note figure 2) having a controllable capacity. The reference to Griffin fails to teach the first valve set as being a slave operated pressure compensation valve.

Sindelar teaches a very old and well known pressure and volume compensation system for a valve set, wherein a valve (21) is operated by a slave device (36) driven from a controlling device (34, 46), wherein a pressure driven volume compensation valve (74) compensates for changes in volume and pressure in the system, maintaining the accuracy of the tracking between the controlling and slave devices. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the first valve set taught by Griffin with a pressure and volume compensation device such as taught by Sindelar, for the purpose of insuring accurate tracking between the actuator and valve, and to insure that changes in temperature and volume of the fluid do not

Art Unit: 3618

adversely affect the operation of the valve set. The reference to Griffin as modified by Sindelar fails to teach the valves as being capable of regulating volume as well as flow direction. Porta teaches a valve control scheme (114, 115, 116; 118, 119, 120), wherein incremental volume flow through the valves may be controlled by a control device (12, 76). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the non-incremental solenoid-based valve controls taught by Griffin as modified by Sindelar with an incrementally adjustable pilot valve scheme as taught by Porta for the purpose of providing a greater resolution in controlling the vehicle speed and direction.

As regards claims 6 and 11, the reference to Griffin as modified by Sindelar and Porta fails to teach the provision of a clutch between the engine and the pump. The provision of a clutch to separate the engine of a vehicle from the working elements which draw power from the engine is old and well known, and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a clutch to separate the pump and engine for the purpose of allowing the engine to be started with no load.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin in view of Sindelar, Porta and Yamaoka et al. (US 4,809,796, cited by applicant). The reference to Griffin as modified by Sindelar and Porta is discussed above and fails to teach the provision of a clutch between the engine and cutter blades. Yamaoka et al. teach a mower wherein an engine drives a set of cutter blades through a power take-off clutch (29) which selectively drives a pulley (30) and belt (31) which in turn drives the blades. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a power take-off clutch as taught by Yamaoka to allow selective driving of the blades of the mower of Griffin as modified by Sindelar and Porta, for the purpose of allowing the vehicle to be run without the mower blades constantly running (e.g., under conditions where cutting is not needed or not desirable).

Response to Comments

7. Applicant's comments, filed with the amendment, have been carefully considered. Applicant has argued that the reference to Porta, while teaching an incremental flow arrangement, is defective inasmuch as it is related to a parallel hydraulic drive. The examiner has not suggested that Porta's parallel drive be incorporated into the system taught by Griffin and modified by Sindelar, rather that the incremental flow valves themselves be used, for the well known advantage of providing a greater resolution in the control arrangement, a benefit which is well established regarding the use of incrementally variable valves.

Applicant has argued that the references fail to specifically teach the combination, however, a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference (see *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)), with skill being presumed on the part of the artisan, rather than the lack thereof (see *In re Sovish* 769 F.2d 738, 742, 226 USPQ 771, 774 (Fed. Cir. 1985)); further, references may be combined although none of them explicitly suggests combining one with the other (see *In re Nilssen* 7 USPQ2d 1500 (Fed. Cir. 1989)). It has long been the law that the motivation to combine need not be found in prior art references, but equally can be found "in the knowledge generally available to one of ordinary skill in the art." *In re Jones*, 958 F.2d 347, 351 (Fed. Cir. 1992) (citing *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988)).

The motivation to combine can be found either in a prior art reference, or it can be implicit in the knowledge of one of ordinary skill in the art. See *In re Huston*, 308 F.3d 1267, 1280 (Fed. Cir. 2002); *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472 (Fed. Cir. 1997).

Sources suggesting a combination may be: (1) the combined teachings of the prior art, (2) the knowledge of the ordinary practitioner and (3) the nature of the problem to be solved. "The test for implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole

Art Unit: 3618

would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed.Cir. 2000).

In Richard Ruiz and Foundation Anchoring Systems, Inc. v. A.B. Chance Company, No. 03-1333 (Fed. Cir. January 29, 2004), the court emphasized that an "express written teaching in the art" to combine references was not required [emphasis added]. Rather, motivation may come from "the nature of a problem to be solved, leading inventors to look to references relating to possible solutions to that problem."

Please further note the following from Section 2144 of the MPEP: "The rationale to modify or combine the prior art does not have to be expressly stated in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent...The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem...It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by Applicant." Also Chief Judge Nies writes in a concurring opinion, "While there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, it is not necessary that the cited references or the prior art specifically suggest making the combination...In sum, it is off the mark for litigants to argue, as many do, that an invention cannot be held to have been obvious unless a suggestion to combine prior art teachings is found in a specific reference". See In re Oetiker 977 F.2d 1443, 24 USPQ.2d 1443 (Fed.Cir.1992).

Applicant has further argued that there is no suggestion that there is a deficiency in Griffin to warrant the combination with a reference teaching a variable valving system. It is well held that a variable control allows a greater resolution than a control which only allows three steps associated with one particular direction (e.g., note figure 6), and it would not be deemed to be beyond the understanding of one of ordinary skill in the art that a variable valving arrangement would facilitate a substantial improvement in control of the vehicle if employed, over a system having only a limited number of discrete steps, if for no other reason than an improvement in maneuverability.

Art Unit: 3618

Conclusion

8. Any inquiry specifically concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 571-272-6701.

Any inquiries of a general nature or relating to the status of this application may be made through either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

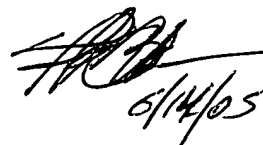
A response to this action should be mailed to:

Mail Stop _____
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450,

Or faxed to one of the following fax servers:

Regular Communications/Amendments: 703-872-9326
After Final Amendments: 703-872-9327
Customer Service Communications: 703-872-9325

F. VANAMAN
Primary Examiner
Art Unit 3618



6/14/05